

**REMARKS**

Claims 1-21 are all the claims pending in the application; claims 4-9 and 12-21 have been withdrawn from consideration; claims 1, 10 and 11 are rejected; claims 2 and 3 are objected to.

The amendments to claims 1 and 9 find support in the specification at page 5, lines 24-32.

The amendment to claim 10 finds support in the paragraph bridging pages 9-10 of the specification. The amendment to claim 11 finds support in the second paragraph of page 11.

No new matter has been added. Entry of the amendment is respectfully requested.

**I. Restriction Requirement**

At page 2 of the Office Action the Examiner acknowledges the election, with traverse, of Group I (claims 1-5 and 10-11) drawn to an isolated polypeptide cellulase, and the polypeptide of SEQ ID NO:3.

The Examiner has maintained his position that the claims lack a special technical feature, and thus, the claims lack unity of invention and the restriction is proper. It is the Examiner's position that the cellulase of SEQ ID NO:1 is the linking feature of the claims, and because the cellulase of SEQ ID NO:1 is known, there is no special technical feature. The Examiner further notes that the three modified cellulases recited in the claims are different from each other and therefore also do not serve as a special technical feature.

Included herewith is an amendment to claim 1 such that the claim recites a polypeptide comprising the amino acid sequence of SEQ ID NO:1 having a substitution at position 162 or 166, or both, as well as polypeptides comprising a modification at the N-terminus of the polypeptide.

Applicants respectfully request rejoinder of each of the non-elected claims because, as amended, the claims are linked by a special technical feature, namely, the novel polypeptide of SEQ ID NO:1, a cellulase that is resistant to surfactants.

Applicants also note that the claims of Group II are directed to polynucleotides that encode the polypeptides of the elected Group I. As the claims of Group II are inexorably linked to the polypeptide claims, and as searching the polynucleotides would not place a serious burden on the Examiner, Applicants also request rejoinder the polynucleotides claims of Group II.

In the alternative, Applicants respectfully request rejoinder of the claims of Groups **II-IX**, drawn to polynucleotides, vectors, host cells and methods of using the polypeptides of the elected claims, upon allowance of the elected claims. Each of the claims of Groups **II-IX** depends from an elected product claim.

## **II. Claim Rejection - 35 U.S.C. §112**

**A.** At page 3 of the Office Action, claims 1 and 10-11 are rejected under 35 U.S.C. §112, first paragraph, as lacking adequate written description support in the specification as filed.

The Examiner states that claim 1 is directed to a genus of modified or variant cellulases having one or more amino acid residues added or deleted to the N-terminus of SEQ ID NO:1. The Examiner notes that there is no recitation of distinguishing attributes for the genus, no limits on the number of changes that may be made, no guidance as to which changes may be made, and that only one member of the genus is disclosed. The Examiner concludes that the disclosure fails to provide a representative number of species to describe the genus, and as such, Applicants were not in possession of the invention as claimed at the time the application was filed.

Applicants note that at page 5, lines 24-32, of the specification, it is stated that the cellulases of the present application include the polypeptide of SEQ ID NO:1, as well as those polypeptides having one or a plurality of amino acids added to or deleted from the N-terminus of the polypeptide of SEQ ID NO:1. As explained in this section of the specification, the cellulases of the present application may include a secretory signal sequence that undergoes differential processing, depending on the bacterial host used to produce the cellulase. Therefore, homologous proteins having an amino acid sequence in which one or plural amino acids are added to or deleted from the N-terminus of the polypeptide of SEQ ID NO: 1 are included within the scope of the present invention.

Applicants note that when a secretory protein, such as a cellulase, is produced using genetic engineering techniques, a host is generally transformed with an expression vector containing a DNA encoding a precursor of the secretory protein. The precursor is composed of a mature protein portion, and a secretory signal sequence attached to the N-terminus of the mature protein portion. When the precursor expressed in the host is secreted from the host, the secretory

signal sequence is removed from the precursor by a signal peptidase to convert the precursor into a mature protein.

It is well-known for those skilled in the art that a secretory signal sequence is sometimes processed differently, depending on the host used for the production, and thus one or a plurality of amino acids may be added to or deleted from the N-terminus of a mature protein.

In view of the noted support in the specification, included herewith is an amendment to claim 1 such that the claims now recite a small, well-defined genus of polypeptides. The skilled artisan would have recognized that Applicants were in possession of the recited genus of polypeptides at the time the application was filed. The claims thus have adequate written description support in the application as filed, and Applicants respectfully request reconsideration and withdrawal of this rejection.

**B.** At page 4 of the Office Action, claims 1 and 10-11 are rejected under 35 U.S.C. §112, first paragraph, as being non-enabled.

Briefly, the Examiner states that while the specification is enabling for a cellulase having a mutation at position 162 of SEQ ID NO:1, it is not enabling for a polypeptide having one or more amino acid additions or deletions of SEQ ID NO:1.

Applicants again note that the pending claims have been amended to recite a small, well-defined genus of polypeptides.

Applicants further note that a signal peptide for secretion (i.e., secretory signal sequence) and a host which may be used in the production of the polypeptides recited in the claims are disclosed on page 9, lines 1-5 and page 9, lines 11-16 of the specification, respectively.

Applicants respectfully assert that there is sufficient guidance to enable one of ordinary skill in the art to make and use the polypeptides as recited in the amended claims.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

### **III. Claim Rejection - 35 U.S.C. §102**

At page 6 of the Office Action, claims 1 and 10-11 are rejected under 35 U.S.C. §102 as being anticipated by Murashima et al. (WO 01/90375; published November 29, 2001).

The Examiner states that Murashima discloses a modified polypeptide (SEQ ID NO:1) having 233 amino acids, which is 100% identical to the polypeptide of SEQ ID NO:1 recited in pending claim 1, and 98.8% identical to the polypeptide of SEQ ID NO:3, and having cellulase activity.

Applicants note that each of the pending claims is directed to a polypeptide having at least one of two substitutions (at amino acids 162 and 166 of SEQ ID NO:1). The polypeptide of Murashima does not include either of the two recited substitutions. Murashima thus does not teach each and every limitation of the amended claims.

Accordingly, Murashima does not anticipate the amended claims and Applicants respectfully request reconsideration and withdrawal of this rejection.

#### **IV. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



---

Drew Hissong  
Registration No. 44,765

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: July 10, 2006